Requirements Solicitation: Client Meeting Notes 11/3- 3pm:

1. Two parking spots: Customer gets to select which parking space they want through HMI- Insert/select
2. What counts as an obstacle: Limited capability of 6 feet for ultrasonic sensors, not fully autonomous, needs drivers to also be paying attention-eye tracking on the dashboard? Could this feature have no expectation of monitoring the driver. Can't enable it completely remotely where they can't see what is happening.
3. No spots available: system should have time out when it shuts down and goes to the driver to ask what to do. How long should it give up?
4. Position control for phone app: Want driver to have same experience in phone app as in vehicle HMI, driver needs to be able to interrupt and stop, everything you can doin vehicle, must have on app, one-to-one with vehicle.
5. System failure: checking when starts to make sure everything is running, if failure happens during abort maneuver return control back to the driver doing this through the HMI.
6. Reasonable time for a system to fail: assuming the system will make calculations will know it can make it in a spot, not that smart, how advanced on how we want to make it.
7. Another car on course to parking: system should stop the parking.
8. Parking lot or street parking, does not have intelligence to know of an open parking spot only knows what is right in front of it.
9. Driveway parking: System can't handle driveway parking.
10. Ford Pass App: through app put car into safe state, maybe turn off car? Our choice to add.
11. What are conditions for drivers not to use the system i.e snow and rain: system should work under any conditions as long as getting no fault under any sensors. If it can't see anything with cameras then it can't use the system.
12. Note: measuring between vehicles not parking lines?
13. False positive: does not clear fault will give control to driver, not elegant fault recovery. We have control of this.
14. Handicapped accessibility: Right now the app does not have any accessible features, should be considered in future, but not this iteration.
15. Reasonable amount of time: Make this vague on purpose, something under 30 seconds.
16. Driver braking: judgment calls to be made, want driver to be able to modulate brake a little, but come to a complete stop, complete abort of maneuver.
17. Control maneuver from phone and car: How to know if the driver is inside or outside the vehicle?: wait sensor on seats? See if someone is inside the car. Or seatbelt engagement. Have the user tell the app they left the vehicle.
18. Subsystems: Work within subsystems that we have
19. Width requirement: specific width requirements, getting back to us.
20. Safety for people and things outside system: Car will move on its on, if it detects something it will stop, if driver sees something it will hit on brakes
21. Feedback from app: when the parking is performed, in progress, when it ends, if it aborts, etc, series of text messages, something visual
22. Detecting parking lines on road, hot to park without overlapping two parking spots: system has front end camera, not camera on sides, so will not be able to detect lines. Limited and unsophisticated system.
23. Security feature: Making sure the backend system knows the phone is associated with the car, so it can't be hacked, authentication and registration should be authenticated to the backend.

24. System is malfunctioning: Driver can abort and override the system. Touching or moving the steering wheel will do this.
25. Taking off seat belt: Will not stop the system.
26. What kind of situations will stop system:
27. When the user selects a parking spot pulled or backed into: all automated, don't have a choice over that, how does the system decide this: parallel-backing, and perpendicular, so always backing into a spot, think about the simplest system.
28. Abnormal parking, on hill: should still be able to handle this.
29. What part of the car will hmi system be: on dash, in front of driver, heads up display, etc.
30. Shutting car off in the middle of the system: the system will shut down with the car.
31. Real questions will start once we start designing system.
32. Fully autonomous system versus non autonomous, in between is difficult.